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ABSTRACT

Growing demands for accountability and useful measurement of educational outcomes have contributed to increasing efforts to develop or refine more valid and reliable methods of educational assessment. More states are designing high-quality indicator systems for evaluation at the school, district, and state levels. Seven recommendations derived from research and practice for developing practical indicator systems are presented in this educational policy bulletin, with a focus on defining objectives and reporting data. The challenge is to develop indicator systems that are useful to and used by educational stakeholders. (LMI)

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INSIGHTS ON EDUCATIONAL POLICY AND PRACTICE

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Developing Useful Educational Indicator Systems

When the Office of Educational Research and Improvement (OERI) released its report, ***Creating Responsible and Responsive Accountability Systems****, a year ago, Study Group Chairman Terry Peterson called accountability a "very hot" issue. It still is. Demands for accountability and for useful ways of measuring it are coming from governors, legislators, business persons, educators, and parents. "There is a change in the public's expectation of what they want schools to accomplish," says Louisiana Superintendent Wilmer Cody.*

Currently, many states are working to develop or refine "report cards," update or create more valid and reliable tests, and design measures of higher-order competencies. In short, states are designing high-quality indicator systems that will be ***useful*** *to policymakers, educators, and the public in assessing the condition of education at the school, district, or statewide level.*

Developing Useful Indicator Systems

"The key to developing indicators is deciding what you want your indicators to do for the state," says Ramsay Selden, Director of the State Assessment Center of the Council of Chief State School Officers. Indicators must be selected, collected, and reported according to a broad array of policy needs and the public's concerns or expectations.

Setting up an indicator system that is both fair and politically useful is no easy assignment. "Usefulness," writes Shavelson et al. (1987),

> depends on much more than just the dissemination of indicator data. It also hinges on factors such as the indicators contained in the system, how they are conceptualized and measured, the level at which they can be aggregated, and the way in which they are analyzed and reported (p. 22).

Creating useful indicators means making difficult tradeoffs, admits Terry Peterson. Sound accountability systems must weigh tradeoffs between a state's goals for assessment and/or improvement and the resources available for such a system; the need for state accountability versus local autonomy; the need for statewide comparability against the need for local ownership; the utility of collecting and analyzing new data against the burden in time, effort, and paperwork to do so (OERI, 1988).

The challenge, then, as David (1988) frames it is twofold: (1) to create indicators that policymakers, teachers, and the public will use and (2) to create conditions that enable stakeholders to use indicators in their own planning and decision-making.

To meet that challenge, educational decision-makers can draw on the following lessons from literature and the experiences of other states to develop indicators that are **useful to** and **used by** educational stakeholders:

1. Engage stakeholders in defining goals.
2. Be realistic about the role of indicators.
3. Develop multiple indicators to reduce unintended effects.
4. Consider the resources available for operating the system.
5. Report data so that they allow for fair comparisons.
6. Report data so that they are understandable and useful to a variety of audiences and stakeholders.
7. Assess and revise the system as necessary.

Lessons from Research & Practice

1. Engage stakeholders in defining goals. "In the nation today, the imperative for accountability is no longer a mandate from the top, but is focused on the kids," according to William

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Youngblood, President of the South Carolina Business Roundtable. "It is not a **school** problem," he continues, "it is an **economic** development problem for the community." Local decisionmakers create a climate for developing useful indicators when they invite school or district staff along with the community at large to suggest what should be measured and how.

Youngblood says designers of an indicator system must ask themselves three questions:

- Have you adapted your vision to what you want the schools to accomplish?
- Do you know where you want the system to be to meet the demands in a global economy?
- Do you have ways of knowing whether the system is on track?

South Carolina developed its goals for an indicators system by achieving consensus through meetings with business persons, parents, and teachers around the state. A blue ribbon committee established the most important goals, which were then written into the state's Education Improvement Act.

2. Be realistic about the role of indicators. Educational indicators are single or composite statistics that reveal something about the performance of an educational system. They are tools that can help state and local policymakers make decisions to improve the education system. They may be used simply to report information or they may be used to monitor school performance.

Indicators can measure the dimensions of the school system that are related to performance. They can flag or begin to diagnose problems of schools or districts and they can **suggest** potential causes of such difficulties. They have limitations, however. Indicators cannot meet all data needs, portray the education system perfectly, or show cause and effect relationships.

An indicator **system** measures individual components of the educational system, but it also tells audiences how the components are interrelated, or how they work together to bring about desired outcomes. If indicators are to be used to examine relationships among the components of an educational system, they ought to be generated from a model that depicts how the system actually works. Generally, such a model includes **inputs, processes**, and **outcomes** (Oakes, 1986; Shavelson, McDonnell, Oakes, & Carey, 1987).

In Louisiana, educational stakeholders have been researching "input-process-outcome" indicators for the state's progress profiles. They are in the process of examining indicators and have recommended the following:

- **Student outcomes**–results on state criterion- and norm-referenced tests, dropout statistics, student attendance data, ACT/SAT results, graduation statistics
- **Demographics**–SES of students, relative wealth of district
- **Other student data**–suspension/expulsion, participation in activities outside of school, student attitudes, socialization and interpersonal relations information
- **Input measures**–faculty/staff characteristics, class size, fiscal effort for education, administrative leadership academy participation, teacher evaluation information
- **School process measures**–information about: school climate, educational leadership, parent/community involvement/ support, effective teaching, coverage of curricular content
- **Optional indicators**–national merit semi-finalist statistics, advanced placement classes, SAT school-level results, statistics on availability and participation in preschool and alternative programs (Louisiana State Department of Education, 1989).

3. Develop multiple indicators to reduce unintended effects. Unintended consequences of an indicator system may corrupt data and make the system less valid or reliable. "When you begin to measure something, you may bring into being some unwanted effects," says Jane David, educational consultant and author of *Improving Education with Locally-Developed Indicators*.

Accountability systems might actually stifle creativity or school improvement by causing a narrowing of curriculum offerings in some states. "What you measure is what schools will spend time on," she cautions. The question is not, "How do you get rid of standardized test scores as an indicator?" but, "How do you minimize potential

unwanted effects?" David suggests that one way is to give districts and schools some choices in how they measure achievement. Standardized test scores are a relatively easy, inexpensive way to measure performance, but districts should be able to use other measures of achievement if they can.

4. Consider the resources available for operating the system. Indicator systems require equipment, funding, time, and human resources for collecting, analyzing, and reporting data. Whether the data are analyzed and reported by school or by district, much of the burden of data collection is on teachers. The effort and time required to collect data must be weighed against potential losses in instructional time. For example, the usefulness of indicator data to classroom teachers is limited largely because of the expense and burden entailed in collecting, analyzing, and reporting data that provide teachers with detailed feedback about how their instructional strategies affect classroom performance (Porter, 1988).

A state department should have some analytical capacity, too. Or, as the California State Department of Education has done, it may contract with an external research agency or university to analyze indicator data.

Lynn Moak, Deputy Commissioner for Research and Information at the Texas Education Agency, advises that, whenever possible, indicator systems should take advantage of existing regional networks and computer technology to control resource burdens. In Texas, for example, regional educational service centers are responsible for editing raw data after they are collected.

5. Report data so that they allow for fair comparisons. Local school administrators and policymakers share concern about the ability of an indicator system to allow fair comparisons among schools. That is, how can a system fairly compare the performance of schools in a well-funded, suburban district with the performance of remote, resource-bound schools populated by poor or disadvantaged students? What should be the features of similarity: per pupil spending, free lunch enrollment, parents' educational attainment? Providing for some basis of comparability creates a system that "recognizes social context but holds high expectations for all students" (OERI, 1989).

A system can provide comparability by reporting information about the context of schools or districts, asserts Ellen Still, Director of Research for the Senate in South Carolina. South Carolina and California both report schools' performance within "comparison bands" of demographic and socioeconomic data. Each school's expected performance is figured on the basis of previous test scores, and is compared to schools with similar student characteristics within their band.

6. Report data so that they are understandable and useful to a variety of audiences and stakeholders. "If working properly, accountability ought to give parents and educators the information they need to request more changes," says Chris Pipho of the Education Commission of the States. The best way to give them such information is to tailor the report to the audiences. "Keep your audience in mind," says Ellen Still. South Carolina produces three different reports for its audiences: a school performance report for principals and faculty, an "impaired district" report for district administrators, and a statewide assessment report with a four-page pamphlet for public readers. She also advises staff who produce the report to offer technical assistance on reading and understanding the demographics and the characteristics of students. "Most people don't know about the characteristics of students. Spend some time traveling through the state to tell them."

7. Assess and revise the system as necessary. "No system starts out perfect," asserts Still. Consider the system to be in a "phase-in" period, she adds, and start with the measures that are available. Texas has gradually added to the data that the state collects through its Public Education Information Management System (PEIMS). "You also have to be able to change indicators if they no longer measure what is important to your goals," says Bill Youngblood. And, he cautions, you have to be patient. Most reform efforts, like new businesses, fail. "Keep in mind that you're in it for the long run."

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